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ORIGINAL DEPARTMENT.

LECTURES

ON

EXPERIMENTAL PHYSIOLOGY.

Delivered in the Physiological Laboratory of the University of Pennsylvania,

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(Reported for the MEDICAL AND SURGICAL REPORTER.)

Lecture V.—Gastric Digestion.

(Continued from page 381).

GENTLEMEN:—Continuing our study of gastric digestion, we have to-day to finish the examination of the results of digestion in the stomach, and to take up the phenomena of secretion of gastric juice.

You saw that in the subjection of egg albumen to dilute acid, *all* the albumen was converted into syntonin, no proteid being found in the filtrate.

In the digestion of albumen by the gastric juice the result is different. You saw, when I neutralized the result of auto-digestion of the stomach, I obtained a precipitate of parapectone or syntonin, but that all the albumen was not converted into this substance, because with Millon's reagent we still obtained evidence of a proteid in the filtrate. I will neutralize this specimen of artificial gastric juice in which fibrine has been dissolved, and there is a faint precipitate, not by any means the equivalent of the amount of fibrine originally present. I will filter off this syntonin, and the clear filtrate shows, with Millon's reagent, and by the xanthoproteic reaction, the presence of an albuminoid. What, then, is it that furnishes this reaction? You know that, as a class, the products of gastric digestion

are called peptones. This, however, is a broad genus, containing several subdivisions and introductory products. In the order of their production, we have first parapectone or syntonin, which I have shown to you, and which is precipitated from alkaline or acid solutions upon neutralization, being again capable of resolution in dilute acids.

According to the most recent views, this is merely an introductory product to gastric digestion, and ultimately nearly or completely disappears in its conversion into peptone.

In some experiments, however, which I have recently made on peptic-fibrine digestion, I obtained the reactions of A-peptone before any deposit of syntonin or parapectone could be obtained on neutralization. The reactions of A-peptones were obtained after fifteen minutes digestion, in the warm bath at 40° C., of the fibrine in artificial gastric juice, made by adding a few drops of glycerine-pepsine extract of the dog's stomach to 100 cc. of HCl 0.2 per cent. And it was not until fifteen minutes more that a trace of syntonin appeared on neutralization, while the quantity of A-peptone, as measured by the density of deposit with nitric acid and potassium ferro-cyanide and one per cent. acetic acid, had then largely increased.

Part of the parapectone was supposed to remain in the form of dyspeptone, which is spontaneously precipitated in a .2 per cent. acid. Its existence, however, is doubtful, as is also meta-peptone. Peptones, however, are found in three forms. A-, B- and C-peptones. A-peptone is the first stage of conversion following parapectone, and is recognized by the fact that it can be precipitated from its aqueous solution by

concentrated nitric acid and by potassium ferrocyanide with dilute acetic acid. B-peptones follow a more prolonged digestion of A-peptones, and cannot be precipitated by nitric acid nor by potassium ferro-cyanide, unless with strong acetic acid, while C or true peptones are the ultimate destination of all proteids when subjected to gastric digestion. They cannot be precipitated by nitric acid or potassium ferro-cyanide, no matter what the strength of the acid.

Let us now see what is the form present in our solution of fibrine in the artificial gastric juice. We saw that there was a slight quantity of para-peptone. Let us now examine the filtrate, which, you remember, gave Millon's reaction.

I will first boil—there is no precipitate; I add nitric acid—still no precipitate; acetic acid and potassium ferro-cyanide—still with the same result, though it is possible that we may here obtain a sediment, when the mixture has stood for some time. We have then obtained *true* or C-peptones from the digestion of the albumen. They can be precipitated by tannic acid, silver nitrate, mercuric chloride, platinum chloride, and lead acetate. If, now, to another specimen of this same fluid I add liquor potassæ and a drop of diluted solution of sulphate of copper, I get a precipitate which dissolves on shaking, and forms a red solution. If too much copper is added, the solution becomes violet, instead of red. This, then, is another point of contrast with albumen, which, you know, under the same circumstances, gives a violet at once.

Decomposition of Fibrine in Peptic Digestion.

FIBRINE.

PARAPEPTONE OR SYNTONIN.

(Precipitated from dilute acid or alkaline solutions, on neutralization).

DYSEPTONE (?)	METAPEPTONE.
(Spontaneously precipitated from dilute acid solutions.)	(Introductory to

A-PEPTONES.

(Precipitated by nitric acid, and by a mixture of dilute acetic acid and potassium ferro-cyanide).

B-PEPTONES.

(Not precipitated by nitric acid. Precipitated by strong acetic acid and potassium ferro-cyanide.)

C-PEPTONES.

(Not precipitated by nitric acid or potassium ferro-cyanide with acetic acid. Precipitated

by tannic acid, mercuric chloride, silver nitrate, lead acetate and platinum chloride. With caustic potash and a minute quantity of sulphate of copper, forms a *red* solution.)

Having, then, studied some of the characters of the results of gastric digestion, as represented in tabular form, on the board, and the circumstances modifying them, I have now only to show you that the one end of all digestion, the fitting of nutritive materials for absorption, is accomplished in the stomach. Albumen is a colloid, and does not dialyse. Peptones are diffusible. I have here two small dialysers suspended in distilled water, one containing peptone, the other a solution of egg albumen. Peptones are found by the tests above enumerated in the water, but no trace of albumen.

Another question now arises for our consideration, viz.: in what locality are these two digestive factors, pepsin and the acid, separated from the blood. Are they both found together in all parts of the gastric glands, or does each possess a special situation for its secretion? I have here a pigeon, which I will kill, open immediately, and cut out the proventriculus, which is situated between the double crop above and the gizzard below. On laying it open and testing its inner surface with blue litmus paper, we have evidence of the presence of a high degree of acidity. I will now dissect off a portion of the muscular layer, thus exposing the ends of the peptic tubules, and on clipping off a shred of tissue, so as to contain the ends of several of these glands, and testing now the reaction, by squeezing the shred thus obtained between two pieces of litmus, there is obtained scarcely any decoloration. The reaction is neutral, or at most, faintly acid. We can, however, demonstrate the presence of pepsine in this fragment of tissue, by placing it in a test tube containing 0.2 per cent. HCl., and placing it in the water bath, heated to 40° C., for an hour or two, when it will nearly all be digested. There is another way in which it can be demonstrated that the acid is separated solely on the surface of the stomach. About an hour ago I injected into the jugular vein of this rabbit a warm solution of half a gram of lactate of iron, dissolved in 6 cc. of water, and then gradually and slowly injected 1 cc. of a warm 10 per cent. solution of ferro-cyanide of potassium. You know that these two salts will unite and form Prussian blue only in the presence of a free acid. I will now kill the rabbit, by puncturing the medulla, and on opening the stomach and making sections of its wall, it is found that on the inner free surface of the mu-

cous membrane there is a dense blue coloration, more marked at the lesser curvature, while the deeper layers are unaffected.

The two salts have been prevented from uniting elsewhere by the alkalinity and albumen of the blood. I will harden a fragment of this gastric mucous membrane in alcohol, and I will be able next week to show you, by microscopic examination of the section, that the coloration is really confined to the free surface of the mucous membrane, and does not extend at all into the peptic tubules, thus showing that the acid is separated from the free surface of the mucous membrane.

On adding now a drop of sulphuric acid to the urine, which is alkaline, we get an instant blue coloration, thus showing both salts have been absorbed and eliminated by the kidneys, though prevented, through the alkalinity of the urine, from developing the Prussian blue.

As a supplement to what I showed you a few weeks ago, when speaking of the elective excretory function of glands, I may here show you that probably these salts of iron, which you remember I told you were with difficulty eliminated by the salivary glands, have not even now been secreted in the saliva, though, as you have seen, they have freely escaped by the kidneys. I will dissect out one of the sub-maxillary glands, and adding a drop of sulphuric acid, there is no Prussian blue found.

Finally, we may show that the free acid continues to be formed by the stomach for a certain time after death. If the stomach of a recently killed animal is cut into pieces, and washed in water, until an acid reaction disappears, and then left to itself, after a time the fragments will again become acid, and that, too, before fermentation could have set in, thus proving that the acid is formed by the action of the epithelial cells on the materials eliminated from the blood, and that that change may occur some time subsequent to that elimination.

While on this subject of glandular elimination, I may show you that certain other salts, in addition to the two which I have already shown you, may be eliminated by the gastric glands; you remember that while studying the salivary secretion I showed you that iodide of potassium might be eliminated by the salivary glands, while it escaped with difficulty by the kidney. This salt is also readily absorbed, and again eliminated by the gastric glands. The day before yesterday I injected through a tube passed into the stomach of this dog, in whom you saw me make a gastric fistula, two grams of the iodide of potash, dis-

solved in 30 cc. of water. Yesterday, on examining some of his gastric juice with starch mucilage and nitrous acid, I obtained marked evidence of the presence of an iodide; it was also separated, in a less degree, by his urine. I will now again collect some of the gastric juice, and apply the same test, with, you see, the result of the blue iodide of starch. This evidently must have been absorbed and again eliminated, since too much time has elapsed for the original injection still to remain in the stomach.

The influence of the nervous system on the secretion of gastric juice is in some way exerted through the pneumogastric nerves. The whole subject is, however, undecided, and although usually the stomach, flushed in digestion, becomes pale on section of the pneumogastrics, to again become red on irritation of their central end, the effect is not sufficiently constant to be demonstrated to you as one of the facts of experimental physiology. It would seem, however, from this experiment, that the vagus, by an afferent impulse, inhibits the vaso-motor center for the stomach, but the influence of nerves on the secretion of gastric juice is still unknown. It may occur after division of both vagi, both splanchnics, and even after extirpation of the celiac ganglion. There are, however, one or two points, as regards the vaso-motor supply of the stomach, that I will probably be able to show you.

In a large rabbit, chloroformed and fastened on Czermak's holder, I will prepare the vagi nerves in the neck, in the manner with which you are familiar. The nerves being now isolated, but not divided, I will open the abdomen freely in the linea alba, from the xiphoid cartilage to the umbilicus, and thus expose the stomach, which you see is distended. I will now make a transverse incision through the skin alone, from the vertical incision to the left, parallel with the lower borders of the ribs, and extending outward about three inches. I will then introduce a large curved needle, threaded with a double ligature, into the abdominal cavity, protecting its contents from the point of the needle, and bring it out at the end of the transverse incision; then, upon slightly separating the ligatures and tightening them, the abdominal muscles are ligated in two points, and may be divided in the course of the original transverse incision, without hemorrhage. Upon now turning the stomach and intestines over to the right side, the abdominal aorta is seen as it comes through the diaphragm, giving off first the celiac axis and then the superior mesenteric artery. In the angle formed by the aorta and superior mesenteric artery is

seen the almost transparent coeliac ganglion lying a little above this oval, yellowish body, which is the supra-renal capsule. Running into the coeliac ganglion is seen the left splanchnic nerve, which crosses the aorta a short distance above and then runs down on the left side, parallel with its trunk. I will carefully break through the peritoneum and loose connective tissue lying over these parts, isolate the left splanchnic and pass a thread around it. I will now irritate this nerve with a weak induction current, and you see the arteries of the greater curvature very sensibly contract, thus demonstrating that the efferent vaso-motor fibres of the stomach run in the splanchnic.

Allowing, now, the animal partially to recover from the chloroform, I make steady traction on the stomach in the direction of its length, with the thumb and finger, and the animal gives unequivocal signs of uneasiness. I now divide the vagi in the neck, and the same proceeding is followed by no result, thus showing that the vagi are the sensory nerves of the stomach. The stomach appears paler than before. The vagus, however, also contains *motor fibres* distributed to the stomach, for when I irritate the peripheral end of the divided vagus, after dividing the left splanchnic, the walls of the stomach begin to contract. This result does not invariably follow unless both splanchnics are divided, but as the section of the right splanchnic is considerably more difficult than that of the left, I have not taken the time to do it, and you see I have been fortunate enough to get marked motion with only the left divided.

Bile.

The next fluid which is poured into the alimentary canal after leaving the stomach is the bile, but since the major part of the knowledge that we possess of the bile relates to its chemical composition, and as I suppose you will go over that very thoroughly in your work in the laboratory for medical chemistry, I will have very little to say to you about it.

Most of the chemical and physical properties of the bile can be studied in the fluid obtained after death from the gall bladder, in those animals in which this reservoir exists, though certain modifications occur in its composition, such as the addition of biliprasin and an excess of mucin, from prolonged contact with the mucous membrane of the gall bladder. When, however, we wish to study the conditions of secretion of bile, we have to make use of biliary fistulae. When it is desired to study the influence of different conditions, such as the action of

drugs on the biliary secretion, the best method is to employ temporary fistulae of the excretory duct. Dogs are the most suitable for this operation, which can be performed upon them with scarcely any difficulty. It is as well to have kept the dog fasting for several hours, at least, before the operation, as the gall bladder will then be full.

I will now make in this chloroformed dog an incision in the linea alba, about an inch and a half long, and about two inches below the xiphoid cartilage, tying each bleeding point before the abdomen is opened. On pushing aside, or tearing through the omentum, with the forefinger of the right hand, and carrying the finger well down below the liver, a dense band can be felt running from the liver to the duodenum, and consisting of the hepatic vessels, nerve and ductus choledochus. Hooking my forefinger under this band, and drawing it carefully and slowly forward, a blunt hook can be passed under it with the free hand, and the vessels drawn out of the wound; they can be prevented from retracting, by pushing the hook through, so that the vessels lie upon its handle, which rests transversely over the wound. The duct is then easily isolated and ligated near to its entrance to the duodenum, to secure the small blood vessel on its surface, and a canula inserted and bound in the duct. On removing the stilette from the canula, a few drops of bile immediately escape. Probably, however, a simpler method, and one less likely to wound the hepatic blood vessels, is to open the abdomen at the right margin of the right rectus muscle, and then follow the duodenum, which appears in the wound, and can be recognized by its large size and absence of mesentery, up toward the stomach, where the duct can be readily isolated and divided near to its insertion into the duodenum. Permanent biliary fistulae can also be made quite readily in dogs, and have been undertaken, to decide the question as to the excrementitious nature of the bile. For this purpose the gall bladder is selected for the fistula, instead of the ductus choledochus.

The abdomen is opened in the median line, or preferably at the right border of the right rectus muscle, care being taken not to wound the large vessel which crosses the wound on the inner surface of the abdomen, and the common bile duct isolated as before; it is then ligated close to its entrance to the intestine, and at its junction with the cystic duct, and the intermediate portion excised. The fundus of the gall bladder is then drawn down and fixed in the edges of the wound. The operation may then be suspended until ad-

hesis has occurred between the walls of the gall bladder and edges of the wound, and the bladder then opened, or it may be treated in the same manner as in making gastric fistulae, and a canula, similar to the one employed in the case of the stomach, inserted at once. In this mode of operation the object has been to exclude the bile entirely from the intestine; hence the excision of the duct; but Schiff has shown that less pressure is required to make the bile pass from the hepatic duct into the gall bladder than to force it through the common duct into the intestine. This excision, then, of the common duct is entirely unnecessary, apart from the fact that it sometimes fails its object by becoming restored, since as long as the cystic fistula is kept open the bile passes out of the wound, but when the canula is closed, it passes, as normally, into the duodenum. When this operation is successfully performed in dogs, either as detailed above or by excising the common bile duct, and all the bile allowed to escape externally, after a period varying from about two to eight weeks, the animals die, with signs of extreme inanition, though the appetite is preserved to the last.

The phenomena of the secretion of bile which at all admit of demonstration may be best studied in guinea pigs, in whom the bile is constantly poured out in large quantities. The operation necessary is very much the same as the one I have just described as best for making permanent fistulae in dogs. Now that the animal is thoroughly chloroformed and fastened on the rabbit holder, I will open the abdominal cavity, in the linea alba, making an incision about an inch long, from the xiphoid process downward. The pylorus then appears in the wound, and upon making gentle traction the duodenum is brought into view, the loop, analogous to the superior transverse part in man, lying in the wound, with its convex surface directed toward the diaphragm, and receiving into its upper surface the ductus choledochus. I will now ligate the duct in this situation, and pass a pair of forceps immediately under the edge of the costal cartilage, when the gall bladder, which is always full, is seized with the greatest readiness, and a small canula, with an inner flange, inserted and tied in. I now sew the wound up, allowing the free end of the canula to remain outside of the body.

In our studies of the salivary secretion, we saw that the saliva was secreted at a greater pressure than that of the blood, but in the instance of the bile the circumstances of secretion are very different. Bile is always secreted at a

low pressure, never even equaling that of the blood.

I will connect the canula inserted into the gall bladder with a small mercurial manometer, the proximal arm of which is connected with a pressure bottle about four feet above the level of the table, and which contains an aqueous solution of indigo-carmin instead of the soda solution usually employed in blood pressure experiments.

After filling the proximal arm and connecting tube with this solution, I will clamp the tube connecting with the pressure bottle, and you see that the two columns of mercury are nearly on the same level. Upon now connecting the manometer by a small tube, also filled with indigo-carmin, with the biliary canula, the mercury gradually rises in the distal arm of the manometer, until it attains an increase in height of fifteen mm., showing really that the bile is secreted under a pressure of thirty mm. of mercury, as, of course, the column falls in one tube in the same degree that it rises in the other. This appears to be its maximum pressure, as the column no longer advances, and you see how very much less it is than that of the blood.

I can now show you an example of the production of jaundice from obstruction. I will remove the clamp from the pressure bottle and the mercury immediately shows an increase of pressure equal to 40-50 mm. more of mercury, consequently the bile in the gall bladder is now not only subjected to this pressure of a column of mercury 75 mm. high, but also to the pressure of the column of water four feet high, a pressure very much greater than that under which the bile is secreted. The bile, therefore, in the gall bladder is reabsorbed, and if I now clamp the pressure bottle tube, you see the column of mercury gradually fall, though there is no escape of the fluids. Under the pressure of this column of mercury the indigo solution is gradually being absorbed by the guinea pig, and probably before the end of the hour the animal will die, under symptoms analogous to those produced by injecting large quantities of water into the veins, tremors, convulsions, etc., while the analogy to jaundice is still further preserved by the fact that the surface becomes colored blue by the indigo-carmin which was absorbed.

As regards the physiological function of the bile, little or nothing is known. That it is not entirely excrementitious has been proved in those instances in which its entire removal from the body has been followed by death, with symptoms of starvation; food being ravenously taken,

even to the last, and apparently digested, since there is no note of the food ever being found in the feces, though in one instance (Flint) they are claimed to have contained an abnormal quantity of fat; its source, however, is somewhat obscure, since it is stated that the animal always refused fat food, even when ravenously taking lean meat.

The bile appears in some way to assist in the absorption of fats, since it has been found that after ligation of the bile duct an animal will absorb less fat than before, and that the chyle in the thoracic duct in these cases contained very little fat. It is doubtful, however, as to whether this property is due to the property possessed by the bile of forming a faint emulsion with oil or to some modification of the absorbing surface. Both views have been urged. I have here two small filters; one moistened with an aqueous solution of crystallized bile salts, and the other with water. Two hours ago I poured into each 5 cc. of olive oil, and you see that about 1 cc. has passed through the filter moistened with the bile salts, while none has passed through the other. Again, on shaking up equal quantities of ox gall and oil, I obtain an emulsion, probably solely due to the alkalinity of bile, which will stand for some time, though eventually separating.

Another point which increases the mystery attending the functions of the bile is, that it precipitates the results of gastric digestion.

I have here a specimen of artificial gastric juice in which a small quantity of fibrine has been digested, and I will add to one part a little fresh ox gall, and to the other an aqueous solution of the crystallized bile salts, with the production in each instance of a dense precipitate. This precipitate is generally acknowledged to consist of pepsine and of parapeptone, which latter, however, has not been thrown down by the neutralization of the fluid from the alkalinity of the bile, for my solution of bile salts is almost completely neutral, and you see that the supernatant fluid is still strongly acid. The pepsine may be shown to be contained in the precipitate by the fact that when the precipitate is filtered off, the filtrate, even when brought up to the proper degree of acidity, has no longer peptic properties.

I am now occupied with a series of experiments on the precipitation of the results of gastric digestion by bile, which I think will throw some light on this subject, but I have not yet got my results into such shape as would warrant my bringing them before you.

COMMUNICATIONS.

FUNCTIONAL DISORDERS IN DIGESTION, PHYSIOLOGICALLY AND CLINICALLY CONSIDERED.

BY J. T. ESKRIDGE, M.D.,
Of Philadelphia.

Read before the Northern Medical Society of Philadelphia.

Few diseases present less charms of novelty, and still fewer are more practical, or require a greater amount of intelligent skill for their successful treatment, than those which head my paper for this evening.

When we remember their every day occurrence, the distress and annoyance which they cause, the often futile effort of the physician to give relief, the indifference or empiricism with which they are often treated, and the temptation of the unhappy sufferer to become the dupe of the nostrums and quackeries of the present day, it will not seem amiss for us to devote a short time to their consideration.

Dyspeptics are probably more numerous in this country than in Europe, and a careful study of our mode of living and cooking will afford a ready explanation. The causes of dyspepsia may, for convenience of study, be divided into predisposing and exciting. Without here mentioning the various causes, hereditation may, I think, be classed as one of the chief among the predisposing. The American people, for several generations, from their greed of wealth, improper cooking and irregular and hasty habits of eating, have overtasked and weakened the digestive organs, till at last they have dyspepsia, or a predisposition thereto, by hereditation. It does not require an imaginative mind to understand how dyspepsia may be influenced by hereditation; it follows the well-known principle, "like begets like." We know not only that deformities, disease and peculiar traits are transmitted from parent to offspring, but we also know that acquired defects are likewise propagated. Brown-Séquard,* after having produced epilepsy in some guinea pigs by injuring certain portions of their brains, found the disease to appear spontaneously in all the offspring of the diseased animals. Haeckel also mentions that a race of tailless dogs and calves appeared as the offspring of animals that had been accidentally or intentionally deprived of their tails.

It is common for many, instead of giving an hour for the leisure enjoyment of their dinners,

* Whittaker's "Elementary Lectures on Physiology."

to bolt them in from ten to fifteen minutes, and rush back to business; thus taking the blood to sustain their physical and mental efforts which should go to the stomach to carry material to aid in digestion.

Several different forms of functional dyspepsia have been described by various authors, but Ziemssen, in Volume VII, classes all forms of this variety of dyspepsia under the generic term of neuroses of the stomach, a term which, I think, is liable to mislead, unless we constantly bear in mind that the neuroses are only a part of the trouble, and often secondary in nature.

To understand what is embraced under the term functional dyspepsia, be it perverted function of the muscles, glands or nerves of the stomach, it is necessary to call to mind some points in the physiology of this organ. There are no grinding movements in the stomach of man, to aid digestion, as in some of the lower animals, but the muscular movements of the stomach are very important elements in this process, and when these movements are imperfect, great inconvenience results. At the cardiac end and along the curvatures of the stomach, there are numerous glands, whose function is to secrete a fluid which is particularly engaged in digesting the albuminous portion of the food, and at the pyloric portion more particularly, there are mucous glands* which secrete a fluid that has no active office in digestion, but this mucus becomes a great retarder of digestion, and indirectly of absorption, when too abundantly secreted. The fluid from the peptic or cardiac glands is acid, and is intermittingly secreted, while that from the pyloric or mucous glands is alkaline, and is constantly secreted. Thus we find the gastric juice during digestion to be acid, and during the intervals alkaline or neutral. The digesting power of the gastric juice is due to the presence of its peculiar acid, and the organic principle known as pepsin, neither of which can act alone. Many French physiologists contend that the acidity of the gastric juice is due to the presence of lactic acid, but the Germans contend as strongly for hydrochloric.

The stomach is supplied by the pneumogastric and sympathetic nerves. Experiments upon these nerves have not as yet enabled us to draw very definite conclusions in regard to their function in relation to digestion. So far as we know, irrita-

tion of the sympathetic will retard digestion, by contracting the capillaries of the stomach and lessening the blood supply; and paralysis of this nerve will cause engorgement of the mucous membrane of the stomach and over secretion of gastric juice. Experiments upon the pneumogastric give nearly opposite results, but, like those obtained from the sympathetic, these results are not always constant.

Mechanical irritation, alkaline fluids, as saliva, dilute alcohol, bitter tonics, etc., increase the flow of gastric juice, and those substances which interfere with fermentation, and suspend the power of pepsin, as metallic salts, concentrated acids, and alcohol, and regurgitation of bile, either retard the flow or action of the gastric juice.

For convenience of study, functional dyspepsia may be divided into atonic, pyrosis, bilious attacks, reflex and nervous dyspepsia. Time will not admit of speaking of any of these forms at a great length, but a few words in regard to the causes, main features and treatment of each will suffice.

Atonic dyspepsia manifests itself under two forms,* differing in nature and treatment. One is muscular atonicity of the stomach, and the other, faulty secretion of the gastric juice proper. By the muscular movements of the stomach, its contents are brought in contact with every part of its secreting and absorbing surface. If these movements do not take place, the gastric secretion is retarded in its action, because after the outer portion of the food is well saturated with the digestive fluid, its further action is hindered, unless by virtue of these peristaltic-like movements the digested portion of the food is absorbed, and this can only be accomplished by its being brought in contact with various portions of this mucous surface. Thus, it may be readily appreciated how muscular atonicity retards both digestion and absorption.

The chief cause of muscular atonicity of the stomach is rapidity of eating, which leads to gluttony and over distension of the organ, and in some cases to permanent dilatation of the same. It is for the most part a painless dyspepsia, differing widely in this respect from the other form of atonic dyspepsia caused by faulty secretion. Its

* In Kuss' "Physiology," page 238, it is stated: those glands of the stomach (identical with Lieberkühn's glands) which have been called mucous glands, have thus been incorrectly named, the mucus not being a normal product, and no special gland being needed to produce it.

* Nearly two years after I began to take notes on these different forms of atonic dyspepsia, and several weeks after I began to prepare this paper, I read a short abstract of a paper on Atonic Dyspepsia, read by Dr. Leared before a medical society of London (see abstract of *American Journal of Medical Sciences* for Feb. 1879), taken from the *London Lancet*, Dec. 14th, 1878.

chief symptoms, which are acid eructations, escaping of gas, distension of the stomach, oppression at the cardiac region an hour or two after eating, in some cases finally relieved by vomiting, are readily appreciated, when it is remembered that the stomach is over distended by a mass of decomposing food, developing gas, irritating the mucous membrane, and causing a hyper-secretion of gastric juice, together with the acid developed by decomposition.

Treatment.—As rapid eating prevents us from recognizing when we have partaken of a sufficient quantity of food, leads to over-distension of the stomach, and atony of its muscular walls, so is the correction of this injurious habit essential in the treatment of this and all other forms of dyspepsia. Food of the most digestible nature should be eaten in small quantities several times during the day, and at no time should a large meal be indulged in. Many of the bitter tonics give temporary relief, but none compare with strychnia in the permanency of its effects. Its most happy effects are obtained when given in solution in a simple bitter tonic, or in Basham's mixture, a few minutes before eating. This is one of the forms of dyspepsia in which electricity and massage are used to good advantage. It is not my purpose to-night to give records of clinical cases to illustrate different forms of dyspepsia, but I now call to mind a number of instances where persons suffering from over distension of the stomach have been temporarily relieved in a few minutes, by gently kneading the gastric region. Electricity may be applied three or four times a week, and about ten minutes at each sitting, the positive pole over the stomach and the negative to the left of the spine.

Atonic Dyspepsia from Faulty Secretion.—The gastric secretion may be deficient in the acid, pepsin, or both; or the acid secretion may be too abundant. The cause of this faulty secretion lies in some malnutrition, or in an affection of the glands of the stomach. It occurs in persons of sedentary habits, or in those whose blood has been impoverished by hemorrhage or disease. Malaria and Addison's disease (including under the latter the so-called pernicious anæmia) will give rise to it, not only by impoverishing the blood, but also by producing atrophy of the peptic glands themselves. Hypertrophy or hyperæsthesia of the gastric tubules may give rise to an over secretion of the acid of the gastric juice.

Symptoms.—Given a case of atonic dyspepsia from faulty secretion, with our present knowledge of gastric digestion, unless further clinical experience shall enable us to determine, it will be

difficult to decide, before testing by treatment, whether the pepsin or the acid is deficient.

The great symptom of deficient acid secretion is pain coming on some hours after eating, and is generally not relieved till the food has passed into the intestines, where it usually sets up a temporary diarrhoea. In these cases with deficient acid secretion burning eructations are sometimes troublesome. The patient becomes emaciated, both on account of imperfect digestion and the refraining from taking food because it gives pain. The following case seems to be a typical example of this variety, and, therefore, worthy of close study.

Mr. M., aged about thirty-three, a banker, spent his early years in agricultural pursuits, but for ten years has been leading sedentary habits; has suffered for about five years with cramping pains in the stomach, coming on after eating and passing off in diarrhoea. Bowels always irregular, constipation alternating with diarrhoea. During these five years he sought the advice of various medical men, and took numerous remedies, such as iron, quinia, strychnia, pepsin, etc., but obtained little relief, and was compelled to change from one drug to another, till at last he scarcely found anything that would make life tolerable. Finally the suggestion of some kind friend that he had cancer, made life a burden. He first consulted me in September of 1877, when I obtained his history as given above, with the expression, "I have not enjoyed a meal for five years." He had lost twenty or thirty pounds in weight, but there were no evidences of cancer, as shown by tumor, cachexia or vomit. On questioning him, I found he had taken almost everything likely to be of service, except the mineral acids. I ordered five drops of the nitromuriatic acid three times daily, just before eating, systematic exercise, largely a meat diet, and a laxative only when compelled to use one. In a few weeks he wrote, "I have had no pain since I saw you, enjoy my steak without inconvenience, which has not been the case before for several years, and my bowels are opened regularly without the aid of purgatives." Thus he continued from September to January, without interruption. In January I requested him to discontinue his medicine for a while, to keep up systematic exercise with dumb-bells, walking, etc. In a few days I received a note from him, telling me he had to resume his medicine, as the first meal he had eaten without it his old trouble returned. From time to time I have requested him to decrease or stop his medicine for a while, but at no time has he been able to do without it and not suffer from

his former cramping pains. It has now been about eighteen months since he began with the acid, but still it seems just as essential to his comfort, and as effectual in digestion, as when he first began with it.

That we may have a form of dyspepsia from a diminution of the peptones in the blood, is in accord with the peptogenous theory of Schiff,* which has produced many practical results, and is further proven by clinical observations. Küss, reasoning on the physiology of gastric digestion, states that certain cases of sluggish digestion are due to the peptic glands not finding in the blood a sufficient amount of peptogenous material to impregnate them. "Schiff† mentions that 'some persons suffering from this malady were cured in a few days by taking soup an hour or two before eating a meal, or a draught of a solution of dextrine, or even an injection of the same, half an hour or an hour before taking food.' " I have been able to relieve or cure several cases of dyspepsia by having my patients take a little soup or milk between meals, and instead of eating two or three full meals daily, to eat a little six or seven times during the waking hours.

The treatment of this form of dyspepsia is simple, if we bear in mind the physiology of digestion, what things aid it, and what retard it, and secure the hearty coöperation of the patient to subject himself to a properly regulated diet for a sufficient length of time, without which no effort on the physician's part can give more than temporary relief.

Having secured the hearty coöperation of the patient, in many cases a little pepsin at meal time, with an occasional laxative, will suffice; in others the pepsin may be given just before eating, followed by a bitter tonic just after eating.

If there is a hypersecretion of the acid of the gastric juice, due to irritability or hypertrophy of the glands of the stomach, its effects are just the opposite of pyrosis or waterbrash, but its pathology and treatment are very similar. Waterbrash or pyrosis is due to a hypersecretion of the mucous glands‡ of the stomach, which become irritable or hypertrophied. Its chief symptom is vomiting of watery, glairy mucus, before eating, and especially before breakfast, the fluid having accumulated in the stomach during the night. This condition interferes with digestion by the accumulation of large quantities of watery mucus,

* Küss' "Physiology," page 242.

† Küss' "Physiology," page 243.

‡ See Küss' "Physiology," page 238, for contrary opinion.

which dilute the gastric juice and prevent the specific action of the latter upon the contents of the stomach. Then follow a series of symptoms from the decomposing food, such as eructations of gas, acid fluid, distension of the stomach, etc. The most effectual treatment, combined with a properly regulated diet, is by astringents, an hour or so before eating, giving the astringent on an empty stomach, so that it may act directly upon the over-sensitive mucous glands. A host of astringents have been recommended—copper, sulphate of zinc, creasote, kino, nitrate of silver, bismuth, etc. Bismuth is often objected to by many, on account of its bulk, although it often does great good. On the whole, the most effectual treatment I have found is tincture of kino, in Huxham's tincture of bark, from fifteen to thirty drops of the former to a teaspoonful of the latter, from half an hour to an hour before eating. While carrying out this treatment other symptoms may arise, which will call for temporary measures for their relief.

Just a few words in regard to what are called "bilious attacks," or bilious dyspepsia. To rightly appreciate these attacks, and to treat them intelligently, we must keep in mind some of the best known functions of the liver, and the relation which this important organ bears to digestion and nutrition. In 1848 Claude Bernard discovered sugar in the liver; and in 1855 he demonstrated that the sugar of the liver is derived from a substance found in the liver, which substance, in 1857, he found to resemble in features those of vegetable starch. This substance stored up in the liver is called glycogen. The albuminous and starchy products of digestion are taken up mainly by the radicles of the portal circulation, and are carried to the liver, where they undergo important changes before reaching the general circulation. Both of these substances are more or less transformed into glycogen by the liver, in which it is stored up to be transformed into sugar for the nourishment of the tissues. Thus it is seen that the liver performs two important offices, one active, transforming and fitting the products of digestion for assimilation, and the other passive, acting as a reservoir, in which are stored up important and nutritive material. The tissues cannot appropriate more material than is required for their nutrition, and if a superabundance of food is partaken of, digested and absorbed, the circulation becomes too full, as shown by the slow, full pulse, sluggish feeling, both physical and mental, headache, etc.; and the liver is overtaken, which, by a provision of nature, is relieved by an overflow of

bile from the liver into the small intestines, and this in turn sets up a bilious diarrhoea, or an attack of vomiting. These bilious attacks are brought on by excess of food, and are usually found in persons who are irregular in their habits of eating, especially as to quantity, and who only occasionally indulge in large meals, and at other times almost starve themselves by their over caution, lest another attack should be brought on.

Their nature suggests their treatment. Encourage nature in her efforts to get rid of useless material, but endeavor to induce her to carry it off by the stools rather than by vomiting. In the prodromic stage, free purgation will often prevent all the unpleasant symptoms of a bilious attack, and especially those by vomiting. Prevention is better than cure, so here regularity of eating is the only sure preventive.

Reflex or Sympathetic Dyspepsia.—Often the most aggravating forms of dyspepsia arise from disease in organs distant from the stomach. Typical examples of these are found in the multitude of uterine disorders occurring in the female, and to a less degree in the genital affections in the male. Imperfect sight from errors in refraction, not corrected by the proper glasses, will occasionally give rise to gastric disturbances. Often one of the first symptoms of congestion or inflammation within the cranium is intolerance of the stomach. Gall stones, piles, constipation, hernia and affections of the ear, teeth, kidneys, pancreas and liver will give rise to functional or reflex dyspepsia.

The nature of this class of dyspepsia, like the preceding, also suggests its treatment. I have been able to relieve a number of such who complained only of dyspepsia, by treating some distant organ, without any direct or special agents for the stomach.

Neuroses or Neuralgia of the Stomach.—I would define these to be excessive exaltation of the sensibility of the stomach, from special diatheses. Apart from those cases of gastralgia from organic disease, or disease in distant organs acting in a reflex manner, and giving rise to gastralgia, or those in which the pain is caused by some of the forms of functional dyspepsia already considered, I have not met with a single case of neuralgia of the stomach pure and simple. In other words, I have not met with a single case of this disease where I could not trace it from some cause other than a special diathesis. That there are such cases, the clinical observations of many fully attest, but they are rare. On the other hand, there is an immense number of cases

secondarily neurosal, following debilitating influences, and among these may be mentioned those of a moral character, operating through the nervous system, as fear, grief, anxiety, or severe intellectual effort, abuse of stimulants, tea, coffee, anæmia and chlorosis.

Neuralgic, gouty and rheumatic diatheses, and the complex states expressed under the terms hysteria and hypochondriasis, may give rise to neuroses of the stomach, which are directly and almost purely neuralgic in their nature. The great symptom is pain, which is intermittent and disconnected with the taking of food. Sometimes we are only able to differentiate the pain from that occurring in other forms of gastralgia by its yielding to special anti-neuralgic remedies.

Treatment.—Rest for the stomach, tonics, astringents, anti-neuralgics, anodynes, and electricity applied as in atonicity of the muscular coat of the stomach. Rest is best obtained by rectal alimentation.*

*Since reading the above paper, my attention has been directed to rectal alimentation by injections of defibrinated blood in the rectum, by a paper recently read before one of the New York medical societies, a procedure which deserves further trial.

MEDICAL SOCIETIES.

AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES.

The annual meeting of the American Association for the Cure of Inebriates was held at New York, May 20th, with a full attendance of superintendents of inebriate asylums and others interested in the treatment of inebriates. The President, Dr. Willard Parker, made an extended report of the Binghamton Asylum, indicating the bad management, from political interference, and the serious blunder of the State in attempting to turn it into an insane asylum. The city of Binghamton, which originally gave the land, now threatens to oppose the movement by law, on the ground that they donated it especially for an inebriate asylum, and it cannot be used for other purposes. This, with the suit of the stockholders against the State for its recovery, will, in all probability, take the building out of the hands of the State. In the meantime the asylum is in operation, with over forty patients. The most gratifying accounts of different asylums were presented. The organization of four new asylums during the year, and the demand everywhere for these institutions, to relieve both the prisons and insane asylums, was mentioned as a growing sentiment, wherever the subject was discussed.

The following papers were read and discussed at some length: "The Effect of Alcohol on the Offspring," by Dr. E. Chenery, of Boston; "Neurasthenia a Cause of Inebriety," by Dr. George M. Beard, of New York; "Practical Results of the Inebriates' Home, Fort Hamilton, N. Y.," by

Dr. T. L. Mason, Brooklyn, N. Y.; "Loss of Memory in Inebriety"—a medico-legal study, by Dr. T. D. Crothers, of Hartford, Conn.; "Inebriety and its Treatment in Europe," by Dr. Joseph Parrish, Burlington, N. J.; "Alcoholic Beverages and their Origin," by Rev. J. Willett, Fort Hamilton, N. Y.; "Our Position and Principles," by Dr. Willard Parker, New York; "Chloral Inebriety," by Dr. J. B. Mattison, Brooklyn, N. Y.

Many of these papers were of great interest, and opened up new topics and phases of the subject of inebriety.

From the report of the secretary, Dr. Crothers, the following extracts are made:—

The discussions of the effects of alcohol on society to-day are marked by a vague uncertainty and a changing restlessness, unnoticed before.

The increased publication of books, papers, and sermons, advocating many different theories and opinions, together with the temperance revivals which have sprung up in all parts of the country, enlisting the press, and rousing up the church, followed by organized societies pledged to carry on the work (all having one common purpose—the suppression of the evils following the use of alcohol), are the most significant signs of the times, and indicate clearly a great upheaval of opinion, to be followed by a wider comprehension of these evils and their remedies.

The establishing of inebriate asylums in the midst of opposition and credulity has gone on quietly in the wake of this continuous agitation, gathering friends and influence wherever the subject and its wants were realized.

The narrow prejudice and ignorant opposition have only served to bring out more prominently the principles upon which they are founded, and behind all the clamor and sneer there is an undercurrent of facts (increasing every year) pointing distinctly to these asylums for a solution of the many problems of inebriety.

Of over thirty inebriate asylums established in this country during the past quarter of a century, only four have suspended and gone out of existence.

Considering that they were all experimental, and working without experience or precedent, and without the sympathy and coöperation of the public, their success may safely challenge comparison with any other charity of the age.

It is a well recognized fact that the asylum treatment of inebriety is more difficult than that of insanity, and had these asylums not met a necessity as imperative as quarantine stations for infectious diseases, or hospitals for the insane, they would have all failed long ago.

The early management of insane asylums was marked by many failures and imperfections, but the principles did not change. The conceptions of the work and the application of its principles may be wanting, but the necessity and value is the same.

The necessity of hospital treatment for inebriety is established beyond all question.

Within two years a very significant movement has begun, which is the commencement of a great revolution of public opinion in regard to asylums.

There has been opened in this country within

this time over a thousand temporary lodging houses and eating rooms for inebriates—places where the poor, homeless victim, after he has signed the pledge, can be taken and cared for until he is able to go out sober, and help himself.

Some of these places have five or six beds, others less. Most of them are free. Some charge a few cents and trust the inebriate to pay. Many of them are connected with temperance coffee rooms, and are scarcely known. Some of the temperance eating rooms have the names of benevolent persons who will give a room and bed to any poor worthy inebriate who is making an effort to get well.

In these places they recognize the value of physical aid, and the necessity of food and rest, before the diseased will can be restored. The pledge is first given, then the physical wants are supplied. The comforts of home and food are furnished, either free or at a cost that is merely nominal, and often clothing is also furnished. Conversation, prayer, advice, the personal influence of some friend, watching and protection from old associations, and other temporary means, are employed.

Many of these places are managed by societies and reformed inebriates, others by women or churches. The Women's Temperance Union and the reform clubs seem to sustain the most of these places. In some cities single individuals are supporting little homes of this character, and the purpose of all—to shield and protect the inebriate—is one of the fundamental principles upon which inebriate asylums are based. Without any special notice, and almost unknown in the cities and towns where they exist, these initial asylums are rapidly forming public sentiment, and preparing for a larger and more enduring work in asylums properly organized.

The value of one day's restraint in these homes will bring the most positive proof of the greater good coming from a longer time, with more perfect care and attention.

If good food and quiet rest will help to overcome the diseased impulse, it is only a step to realize the value of months of such surroundings, and the possibility of permanent recovery.

These homes are rapidly increasing, and following the track of the great revivals, and they are literally the first efforts of the masses to treat inebriety by rational means. From every one will go out an influence that will far transcend the individual good they can accomplish.

This is undoubtedly the beginning of a great inebriate asylum movement, which shall provide hospitals and homes for this class.

The public are ripe for some practical methods of reaching this disorder. A small number of asylums are at work, like the videttes of an advancing army. Practical men, both in and out of these asylums recognize the possibility of making all this vast tide of inebriety support itself in hospitals sustained by law and public sympathy. All the indications are unmistakable, that behind this noise and confusion will be seen the reign of law and growth of homes and hospitals that shall meet the demand of the inebriate. The medical profession are also agitating this subject, and from all sides come the most cheering proofs that the work of our Association is scarcely begun. * * *

The following officers were elected for the coming year: President, Dr. Willard Parker, New York city; Vice presidents, Drs. Albert Day, of Boston, and B. N. Comings, of New Britain, Conn.; Secretary and Treasurer, Dr. T. D. Crothers, Hartford, Conn.; Secretary for Foreign Correspondence, Dr. Joseph Parrish, Burlington, N. J.

This association meets in New York city, semi-annually, hereafter, and is doing a very important work.

KANSAS STATE MEDICAL SOCIETY.

The thirteenth annual meeting of this Society convened at Atchison, May 14th, nearly 300 members being present. An address of welcome was delivered by Hon. B. P. Waggener, who was responded to by Dr. C. C. Furley, President, who also delivered the annual address, which was an outline of the history of medicine from the dawn of time until the present era. He traced the progress of medicine from the time it was a superstition until it became a science, the Greeks being the first to throw off the shackles of superstition, until Hippocrates wrote the famous sentence "Nature is the first of physicians." The progress of the healing art was then followed, century by century, until the thirteenth and fourteenth, when great progress was made, and in 1315 Mondeni de Luzzi, for the first time for seventeen centuries, dissected a human subject before a class of pupils. Discovery then followed discovery, till in 1619 the great Harvey made known the mechanism of the circulation of the blood. War, a great evil, yet worked for good in the development of surgery. Then came the illustrious Edward Jenner, with the discovery of vaccination, and the medical roll of fame bore the name of John Hunter. A brief allusion was made to the progress of medicine in the United States, and the roll was called of the illustrious Americans who have labored for the good of their profession and of mankind.

Dr. Furley was followed by Dr. Tiffin Sinks, in an address on public and private sanitation. He observed that, great as are the ravages of the thousand forms of accident, of intemperance and of violence, the greatest scourges are infectious and contagious diseases. The plague, for instance, in the fourteenth century swept away 70,000,000 of people. "Humanity underwent a total revolution; society became disorganized; the planet was delivered over to a chaos of terror, superstition, crime, pain, pestilence and death." After five centuries we might expect better things, but the history of the yellow fever in the South last summer sounds like the story of the plague. The instinct of self preservation is as strong as ever. The speaker here introduced a powerful contemporary description of the South during the pestilence, "when the strongest ties of nature snapped in the fever, like strings of tow in the flame." In the midst of universal panic, however, the physicians, as a rule, remained at their posts, and three hundred of them died there.

Reports of committees were called for, and Dr. J. B. Gish, of Valley Falls, read a paper on "Recent Advances in Chemistry." Dr. Gish's paper gave an account of several new metallic elements discovered within the last ten years. The results of recent chemical analysis, throwing

light on the process of digestion, were spoken of. Dr. Gish mentioned the rising interest in sanitary science and the progress made in the discovery and use of antiseptics. The paper was referred to the Committee on Publication.

Dr. Fryer, U.S.A., read an elaborate paper on "Recent Advances in Ophthalmology." Dr. Fryer spoke at some length of the uses of eserine, the active principal of the Calabar bean. Some improvements in operations for cataract were described.

A number of names were reported by the Board of Censors, for admission as members.

Dr. Fryer exhibited a self-retaining attachment to Sim's speculum, invented by himself, and explained its method of application.

Dr. Carpenter, of New Lancaster, Miami county, read a practical paper, singularly devoid of medical technicalities, in regard to the use of plaster-of-Paris bandages in cases of fracture. Notes of several cases in the vicinity of New Lancaster were given. Dr. Carpenter explained that his views were presented for the benefit of country surgeons who had not at hand the array of splints, etc., at the command of the city practitioner. Referred to the Committee on Publication.

The Society adopted, without debate, the following:—

Resolved, That the Kansas Medical Society disapprove and condemn the use of copyrighted pharmaceutical preparations.

Dr. C. V. Mottram, of Lawrence, read reports on a case of dislocation of the hip joint, which was reduced after four months' standing; and a fatal case of aneurism of the aorta, illustrated by a specimen.

Dr. Morris, of Lawrence, read a paper on a case of puerperal insanity. The patient was successfully treated with chloroform, bromide of potassium and hydrate of chloral. A case of puerperal convulsions was similarly treated, with good results.

Dr. Daugherty, of Junction City, read a paper on "Parasites," a subject which Dr. Daugherty described as "attractive." The paper was illustrated by several beautiful tapeworms.

Dr. Daugherty, in response to a question as to his treatment, stated that at nine o'clock he whooped up the worms with two ounces of turpentine and half an ounce of castor oil; at eleven o'clock the first attack was followed by three ounces of turpentine in mucilage of gum arabic, and at twelve o'clock the worms were in full retreat.

At this report the Society manifested great enthusiasm.

Dr. W. S. Tremaine, U.S.A., then took the platform, and partly reading and partly talking, described several new surgical instruments and appliances, and entered into a description and illustration of the Lister antiseptic treatment of wounds, familiarly known as "Listerism," which subject he has made a careful study in his practice as an army surgeon.

The Committee on the Medical Law recommended that the Board of Examiners be appointed a committee to report any desirable alteration in the act under which they are appointed, at the next meeting of the Legislature.

A stirring discussion of the law sprang up, and continued for at least two hours. A variety of opinions were developed.

Dr. Shean and others thought the law contradictory and meaningless. He would risk all its penalties.

Dr. Fryer was in favor of postponement and taking legal advice, and if the law could be evaded, he was in favor of evasion.

At last, after many motions and much talk, a vote was reached on the motion accepting the report of the committee, appointing the board of examiners, and it was carried, 60 to 41, so the law was accepted.

On motion of Dr. Tremaine, a committee was appointed to present resolutions expressive of the sense of the Society as being condemnatory of the law in its present shape.

The Society then listened to a paper by Dr. Halderman, on puerperal convulsions.

The Committee on Nominations made the following report, which was adopted:—

For President, C. C. Furley; Vice Presidents, J. H. Stuart, J. M. Linley; Secretary, F. D. Morse, Ass't Secretary, W. B. Gibson.

Board of Censors, J. F. Neely, M. R. Mitchell, Dr. Jacobs, James Haller, P. Daugherty.

On the next and last day, after some general business, Dr. McCully read a paper on yellow fever. He began by saying that it was a mistake that yellow fever always had been, and in consequence always would be, confined to a southern latitude. It had once existed in Connecticut; at one time it devastated Philadelphia, and some day it might prevail in Kansas. His first experience with the disease was at Key West, in 1864. The island is not subject to malarial diseases. The disease broke out in Fort Taylor in May. It was discovered that a sewer leading from a vault to the moat of the work had become closed. Twenty-four men were detailed to clean out the sewer. All were attacked by yellow fever, and in a short time seventeen were dead. He investigated the subject of the effect of race. There were colored troops raised in the District of Columbia, and a white regiment from New York. Both white and colored took the fever, but the mortality was much the greatest among the whites. Acclimatization was not a protection.

Gen. Woodbury, the commander of the post, who had lived long at Key West, died of yellow fever. He had no doubt the disease spread by contact. Men who came into Key West were attacked by the disease. Places not quarantined to Key West were affected. He made eighteen *post-mortem* examinations at Key West, and in all cases found fatty degeneration of the tissues and enlargement of the spleen. After his experience at Key West, he saw the yellow fever again at Havana. At Memphis he again witnessed its ravages. He deserved no credit for courage, for he had no cause for fear. He had had yellow fever at Key West, and did not expect to have it again. In his opinion, yellow fever belonged in the class with scarlet fever and smallpox, where one attack is the rule. He had abundant evidence of this fact. The mortality, he believed, was increased by the treatment. Blanketing, sweating and purging were all wrong. Dr. McCully did not go into the details of his treatment, but it was gathered that he had found milk and lime water and injections of quinine beneficial. He spoke highly of the devotedness of the Southern physicians. They had protested against the sanitary condition of the Southern cities before the epidemic came. The result in Memphis was the triumph of scientific medicine. During the last three weeks of the fever there was not a homœopath or eclectic in Memphis. When suitable medical attendance was secured, the disease yielded to control. Science could have prevented the disease; science certainly checked it. The North displayed a noble generosity, but the spirit which led northern men to visit the infected district was a mistaken one. They could do no good, and added to the number to be taken care of. The Southern physicians welcomed real aid from any source. A colored physician came down from Cincinnati. He was welcomed; was set to work, was remarkably successful, but finally fell a victim to the fever. The speaker was confident that the gratitude of the South was deep and lasting, and that to be a northern physician was to hold a passport to the best society of the South.

At 12 o'clock, noon, the thirteenth annual session of the Kansas State Medical Society adjourned.

EDITORIAL DEPARTMENT.

PERISCOPE.

The Antiseptic Treatment of Hepatic Abscess.

Dr. W. C. Maclean, Professor of Military Medicine in the Army Medical School, Netley, writes to the *British Medical Journal*—

Private Thomas Debell, Fourth Hussars, aged thirty-nine, twenty years' service, of which seven were spent in India, was invalided from India, and admitted into the Royal Victoria Hospital, Netley, on May 10th, 1878. He had suffered from primary syphilis in 1865, for which he was

treated with iodide of potassium and mercurial fumigations. In 1870, he had repeated mild attacks of ague at Meerut, followed by syphilitic rheumatism. In 1871, he was sixty-three days in hospital, according to the medical history sheet, for "Bright's disease, cause unknown." There is, however, reason to believe that the symptoms which were supposed to indicate Bright's disease were in reality due to injury to one or both kidneys, the result of a heavy fall on his back from his horse. No symptoms of Bright's disease, nor any affection of the kidneys, were present on admission. He was invalided for the results of this accident, and sent home, arriving

at Netley in April, 1872, well and fit for duty, and at once sent to his depot, and, after a time, returned to his regiment in India.

In March, 1878, he had what he describes as a slight attack of dysentery, from which, on embarkation for England, he was convalescing. During the voyage, while on night duty, he slept on deck, was chilled, and suddenly seized with acute pain in the hepatic region, with rigors and vomiting. The following was his condition toward the end of May: He was emaciated; his tongue was clean; no diarrhoea; appetite bad; morning nausea. He was very restless, sleeping badly, yet his spirits were always good. Morning temperature 100°; evening, 101 to 102°, F. Pulse 80 to 90. The cardiac sounds were normal. Cough was troublesome at night; there was slight crepitation at the base of both lungs. Hepatic dullness in the mammary line extended from the sixth rib to within two inches of the crest of the ilium. Just below the cartilage of the ninth rib there was a well-defined prominence, four inches in diameter, extremely tender, but without fluctuation. There were, in addition, general hepatic pain, and impatience of palpation over any part of that region; and the superficial veins on the right side of the abdomen were prominent.

On June 6th an unsuccessful attempt was made to evacuate an abscess, the existence of which was diagnosed, with an aspirating needle. No pus was found, but rather more than half an ounce of blood was withdrawn by the exhausting syringe. For two days the patient experienced considerable relief of the local symptoms from the operation. Soon, however, diarrhoea and night sweats set in. It was then determined to operate again, this time according to the antiseptic method. The operation was performed by Surgeon Major Porter, Assistant Professor of Surgery, the patient being under the influence of ether, a powerful steam-generated carbolic spray playing on the part. An opening was made with a full-sized trocar between the ninth and tenth ribs. Twelve ounces of thick, creamy-looking pus having been withdrawn, a drainage tube was introduced and secured in the usual way; the part was dressed with carbolized gauze and tow, and secured with a carbolized bandage, according to Mr. Lister's method, the spray playing until the dressing was completed. At every subsequent dressing, the same method was carried out with scrupulous care, so as to avoid the entrance of uncarbolized air, and the discharge was received in the carbolized dressings.

It is not necessary to give the details of the case further than to say that the case progressed favorably, and that, notwithstanding the great heat of the weather, the discharge continued free from every trace of mal-odor to the last. Some difficulty was experienced in introducing fresh drainage tubes, owing to contraction of the wound, which was overcome by careful dilatation with bougies. During treatment, the patient was troubled by a return of syphilitic rheumatic pains, which were relieved by iodide of potassium in full doses. On August 25th the tube was withdrawn, the wound, however, being still dressed with carbolized lint. By the end of

August the wound was quite closed, all pain and tenderness on pressure had ceased, his general health was good, his temperature was normal, he had gained flesh, and was able to make himself useful to patients in the ward. The liver was greatly reduced in size, in fact, in all directions, little exceeding its normal limits. Having completed his time of service, he was finally discharged "to pension," in very good health.

The Medical Use of Cinchona.

Some rules for using cinchona and its alkaloids are laid down by Dr. H. M. Field, in the *Transactions* of the Vermont State Medical Society. Premising that there are but two general contraindications to its use—a disposition to cerebral congestion or to intestinal inflammation—he recommends these directions:—

Immediately after the paroxysm, eight grams of cinchona, or one gram of quinia; one day's interval, and then the same dose; two days' interval, same dose; three days' interval, same dose; four days' interval, same dose. If the medication be stopped at this point, relapses are to be feared; it is wise, therefore, henceforth, to pursue Bretonneau's plan, and repeat the dose successively, after the last day of medication, upon the 10th, 15th, 20th, 25th and 30th days. So much for the general principle; but various modifications can be introduced at the will of the practitioner, in the use either of the *single* or the *continued dose*; or as demanded by the type of the seizure, if it be quotidian, quartan or whatever. In severer cases the remedy has more immediate power if given all in one portion, or in two parts after a few hours' interval.

The intervals as proposed by the scheme advised have a double significance and value; for where the quinia is taken daily, even in comparatively small doses, there is danger either of causing irritation of the stomach, which may then refuse longer to receive the remedy, or that the patient will get so accustomed to it it will have lost its therapeutic power. In this latter event an unexpected return of the fever finds us at great disadvantage. Hopelessly involved are those cases—happily very rare—where from neglect of this caution and steady persistence in the exhibition of large quantities for a considerable time, together with exceptional obstinacy on the part of the disease, the phenomena of morbid poisoning and therapeutic poisoning become inextricably blended. There are few conceivable conditions so unfortunate for both physician and patient.

In pernicious fever a different plan must be followed; the dose as just estimated must be doubled or trebled, and we cannot safely, as in an intermission, wait for the intermission. Too often no complete intermission is granted, and we must choose the epoch when the accidents of the preceding paroxysm begin to abate a little, or the period of remission. Here medication must be heroic; the doctor who hesitates is lost, and loses his patient. In this emergency he must take command as the "master," rather than serve as the "minister of nature." Truly has Lanter said that if ever the physician is arbiter of life and death, it is in pernicious fever. The im-

portant bearing of hypodermic medication upon this variety of disease has been already remarked.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—“*The Country Practitioner, or New Jersey Journal of Medical and Surgical Practice*,” is the title of a new periodical, published monthly, at Beverly, N. J., by Dr. E. P. Townsend, at \$2.50. It is neatly gotten up, and has a fair promise of life. We note that on page 22 the editor quotes from a writer in the *REPORTER* this sentence: “It has been remarked that probably *veratrum viride* has never been given to a patient who would not have been as well off without it;” and adds his own comment, as follows: “This remark was probably not made by a physician; if so, his powers of observation must have been exceedingly limited.” If Dr. Townsend will turn to the *National Dispensatory*, under *Veratrum viride*, he will find that this remark is made by Prof. Alfred Stillé, M.D., LL.D., except that Dr. Stillé writes that the patients would have been “better off” without this drug.

—The Proceedings of the Southern Illinois Medical Association, held at Centralia last January, form a neat pamphlet of eleven pages. Only the minutes of the meeting are inserted. The publication committee announce that, after mature deliberation, it has seemed best to publish only the minutes of the annual meeting, reserving the papers submitted till after the semi-annual meeting, when they hope to be enabled to publish the transactions of the annual and semi-annual meetings in one volume, which will be a credit to the Society, both at home and abroad.

—The third part of the *Atlas of Histology*, by Dr. Klein and Mr. Smith, is occupied with elastic tissue, adipose tissue and cartilage. The colored plates are beautifully executed, and quite a pleasure to look at.

BOOK NOTICES.

Diseases of the Throat and Nasal Passages. A Guide to the Diagnosis and Treatment of Affections of the Pharynx, Esophagus, Trachea, Larynx and Nares. By J. Solis Cohen, M.D., etc. Second edition. Revised and amended. With 208 illustrations. New York, Wm. Wood & Co., 1879. 8vo, pp. 742.
This large work, printed on fine paper, in

good style, and abundantly illustrated, must long remain the leading American monograph on the important subject of which it treats. Seven years have passed since the appearance of the first edition, and during that time the author has lost no opportunity to add valuable matter from his wide experience, to the text of his book. Comparing it with the work of Browne, published in London last year, we must give the American monograph an easy superiority to that artistic production.

The scope of the work is so fully stated in the title given above, that we need not present an analysis of its contents. The bibliography of the subject is omitted in the present edition, but the numerous references and the very full index, with the names of authors, amply make amends for the omission. The cuts are largely of instruments and of the laryngoscopic image in various diseased conditions. Some of them are new, the majority have already appeared.

Of the topics treated many readers will first turn to the chapters on croup and diphtheria. They are learned and thorough. Dr. Cohen considers them different diseases, requiring different treatment. His summary of the practical questions relating to them indicates large personal experience as well as extensive reading. The same has impressed us in examining the presentation of the various syphilitic affections to which the parts he has under review are liable. Indeed, the work, as a whole, will be sure to give satisfaction.

Fistula, Hemorrhoids, Painful Ulcer, Stricture, Prolapsus, and other Diseases of the Rectum; their Diagnosis and Treatment. By William Allingham, F.R.C.S., Eng., etc. Third edition. Phila., Lindsay & Blakiston, 1879. Cloth, pp. 325. Price \$3.00.

Mr. Allingham's work needs no introduction. Two editions have already been sold in this country, and as many in England. For years it has been regarded as one of the best monographs on the rectum in our language. The present edition has been largely re-written, and the author informs us that he has in various respects modified the opinions he advanced in his previous issues. The work has also been enlarged by a more full discussion of various points. We have perused with much interest his experience in extirpating the rectum for cancer. His reports do not tell very strongly in favor of this hazardous and difficult operation.

It is to be noted that the book is not provided with an index. This is an omission which is inexcusable in these days of much reading.

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THE ENGLISH MEASURES FOR CONTROLLING PROSTITUTION.

The continued efforts made by the association of persons in England who have in view the repeal of the Contagious Diseases Acts, so far as they relate to the control of prostitution, have led to another official examination of the results of enforcing the Acts. The report has not yet been made, but, undoubtedly if it is from unprejudiced observers, it will show that venereal diseases have been diminished, the number of prostitutes lessened, their health bettered, and many young girls saved from following this unfortunate career.

Such are the results which unbiased medical observers who are in the most favorable position to be correctly informed have unanimously stated to have been brought about. There is not a single medical journal of prominence in Great Britain but that is in favor of these Acts; there is not a single physician or surgeon who deserves to be ranked among the leaders of the profession but who is in favor of them.

The opposition comes from clergymen, from

hobby-riding philanthropists, and from women whose emotional nature is too strong for their reasoning faculties to have fair play. Not all women, however, are to be classed in this category. One of them, Mrs. Hoggan, at a recent meeting to further the repeal of the law, actually had the nerve and good sense to say, in reply to those who alleged that the medical examination of public women was an outrage on the liberty of the subject—

"It is agreed that the compulsion exerted here is the grievance, but it seems to be forgotten that the women in question are exercising a lucrative trade, which, to respectable women, is repulsive beyond the power of words to express, but which, in the majority of cases, is not repulsive to themselves. In as far as it is a trade which may spread disease, these carriers of disease naturally fall within the jurisdiction of good government, just as persons carrying on offensive trades, such as chemical works, are likewise placed under control, and they have, therefore, no claim to escape control of a reasonable nature, and to injure with impunity the health of the community."

These are the words of a woman who is brave enough not to be ashamed of her common sense. These Acts are undoubtedly a misfortune in the sense that they are necessary, but it is a libel to say that they are immoral. All the machinery for good, all the practical philanthropy, all religious schemes, have failed to extinguish the evil. The law has come in to help the most earnest workers, not to supplant them. Its object is to deal with and, at least, to diminish a terrible disease, and to assist in the rescue of the fallen; and so far as it aims at and achieves these purposes it deserves support, not only on scientific grounds, but on those of the highest morality and of religion.

While the profession in Great Britain is thus practically unanimous in the support of these Acts, we cannot but refer with regret and shame to the lethargy or cowardice of the profession of the United States. Afraid of the clamor of the "unco guid" and the sentimentalists, they have avoided this question of the registration and supervision of prostitutes. Although ample evidence is before the world that sin and suffering have been both diminished wherever the English acts have been enforced, the physicians

of the United States still hesitate to range themselves on the side of right and progress; and the reason is that they are afraid of the clergy, the ladies, and the professional philanthropists.

LIFE INSURANCE COMPANIES AND PHYSICIANS.

The case of Colonel Dwight, of Binghamton, the gentleman who was so unkind to the life insurance companies as to die shortly after he had placed a number of heavy policies on his life, has been made familiar to the whole country. Of course, the insurance companies were highly indignant at this action of the Colonel's; they had entertained no idea of paying the policies, but on the contrary, of receiving premiums on them for many years. Hence, they called a caucus of doctors, headed by the eminent pathologist, Dr. DELAFIELD, to examine the cadaver; but, to their disgust, this caucus unanimously rendered a verdict of death from natural causes. The body was then buried, but the insurance companies were not satisfied, and after some six months, dug it up again, and had a second caucus of pathologists upon it. Again the experts returned an opinion of death from natural causes. But the agile intellects of the insurance companies were not to be foiled. As after two post-mortems and six months' interment the Colonel did not look like himself, the companies had the happy thought that there had been personation, and that in fact the Colonel is yet living, and had hired somebody who resembled him kindly to die in his stead, and on this ground they continue, with one exception, to refuse payment on the policies!

Such is a history of the way most life insurance companies treat their patrons when they get a chance. We mention it more especially because they are constantly endeavoring to obtain the assistance of physicians to enable them to escape their just obligations. As soon as a policy holder is dead, some companies send a printed series of leading questions to his physician, or an agent calls in person and propounds them. The doctor is asked whether his late patient died certainly from natural causes; whether

bad habits of some kind did not hasten death; whether the disease may not in origin have antedated the policy; whether some other disease may not have predisposed the patient, at the date of the policy, to this one of which he died, and a multitude of other catch questions of the kind.

Such a case we notice was lately reported by Dr. LAYTON to the New Orleans Medical and Surgical Association. It is as follows:—

"A gentleman who had met with reverses in fortune took to drink. Nine months ago he had an attack of delirium tremens. Was called to see him on Monday last, and obtained the following history:—

"On Sunday he had taken a walk after dinner, drank somewhat freely and suddenly fell unconscious, in which condition he remained the greater part of the night. He must have had convulsions at the time. Early Monday morning he had violent convulsions. The Doctor appreciating his precarious condition requested a consultation, and Dr. BICKHAM was called in. On examination his urine was found albuminous; he never recovered consciousness, and died at 7½ P.M. His son called upon the Doctor and stated that the life insurance company in which he was insured was disposed to cause trouble in regard to payment of the policy. The agent afterward called to know what diagnosis had been given in the death certificate. The Doctor said it was albuminuria. The agent then wanted to know if the Doctor had any previous knowledge of the patient's having had albuminuria. The Doctor said 'no.' Agent wanted to know what were his habits. The Doctor refused to give him any information, on the ground that what knowledge he had acquired was a professional secret."

Dr. LAYTON went on to say that a great many insurance companies were disposed to contest payments on small grounds, and wished to know if a physician can be called upon to tell what he may have learned professionally in regard to a patient.

We are very strongly of the opinion that a physician should absolutely refuse to disclose this or any other fact which may prejudice a patient's case, when he has learned it through his professional relations. In nine cases out of ten such information is intentionally misconstrued and misused by the agents to defraud widows and orphans, and we do not believe that the Supreme Court of any State would rule that the physician is legally bound to divulge his knowledge.

It is only too evident that the majority of insurance companies will not scruple to resort to

any means to escape the payment of their policies, and it behooves physicians to be exceedingly careful to avoid aiding them in such nefarious designs.

NOTES AND COMMENTS.

Ulcerations of the Cervix Uteri.

Drs. Veit and Ruge, of Berlin, have been studying microscopically the various affections of the os and cervix. From their examinations they have arrived at the conclusion (1) that the views generally held of the nature of erosions and follicular ulcerations of the cervix require great modification, these changes being really due to glandular outgrowths (*drüsige Wucherungen*), a drawing of which accompanies the paper. That (2) where the clinical diagnosis fails in certain cases of fissured cervix with epithelial outgrowths in the cervical canal, the microscope can decide with certainty for or against cancer. Ruge also states "that pieces scraped from the interior of the uterus have proved the existence of cancer several times, when there was still absolutely no certain clinical suspicion of it," and that Freund's total extirpation of the uterus was consequently performed, to the extreme benefit of the women. Lastly (3), they consider excision and "erosion" imperatively indicated "in doubtful cases, where the clinical examination alone does not give information enough, and where it is a question not only of prognosis, but of the early performance of important operations which it may be impossible to execute later on, when the physical signs are no longer doubtful." Their papers appear in the *Berliner Klin. Wochenschrift*, Jan., 1879.

Poisonous Dyes.

In this country too little attention is given to preventing the domestic employment of poisonous dyes. An English writer in the *Medical Press and Circular* calls attention to the fact that many of the aniline dyes may contain arsenic in quantities that are very injurious to the health, although the symptoms come on so insidiously, and are sometimes so anomalous, that their real cause may escape detection. Inflammation or irritation, and smarting of the eyes and nostrils, a feeling of debility and general *malaise*, headache, catarrh, dry cough, griping in the bowels and tendency to diarrhoea, are among the chief symptoms that have been observed in those who have suffered from this form of arsenical poison-

ing. It may be that the evil complained of is not so great as it has been represented. Nevertheless, after making due allowance for a little exaggeration, the propriety of putting a stop to the wholesale impregnation of wall papers and other materials with arsenic; cannot be questioned.

The Forms of Alcoholism.

The *British Medical Journal* states that Dr. Rabuteau, of Paris, says that wines alcoholized with the alcohols of the North, which are produced from amylaceous substances, produce true alcoholism, and not the natural wines, or those alcoholized with pure spirits of wine. There are three varieties of alcoholism: 1. Ethylism, produced by natural wines or ethylic alcohol; it causes a gay sort of intoxication, without any serious consequences. 2. Amylism, or true alcoholism, produced by wines alcoholized with amylaceous, butylic and other spirits; it renders the subject stupid, dull, and heavy, and such wines are supremely prejudicial to the health. 3. Anæsthesism, produced by the ethers of wines, and particularly the acetic ether of white wines, which affect the head, produce trembling, and, perhaps, affect the stomach, but they are not so dangerous as the amylaceous spirits.

Poisoning by Glanders.

Glanders is a disease which the laws of every State should require to be stamped out by the instant destruction of the animal which has it. Quite a number of fatal cases in the human subject have been reported this year, both in England and America. It will not add to the comfort of the thousands of men who make daily use of trotting wagons and buggies to know that cases are related in which passengers in such vehicles have been infected with glanders by matter thrown off from the horses behind which they were seated.

What Constitutes Hermaphroditism.

That extremely rare malformation which constitutes the hermaphrodite has been variously interpreted by authors, some holding that the co-existence of the external organs of both sexes is a sufficient indication of its existence. The subject was discussed by Dr. Watson, at a recent meeting of the Manchester Medical Society.

After sketching in outline the chief facts concerning the development of the sexual apparatus in the mammalia, he proceeded to point out the homologies of the genito-urinary organs in the two sexes. Dr. Watson concluded his paper by

affirming that since it was evident that in the female the parts may be arranged exactly as in the male and *vice versa*, the specific mark of sex is the presence of a distinctive sexual gland; and that, consequently, the only form of true hermaphroditism is that in which a testicle and an ovary coexist in the same individual, while all other forms must be regarded as spurious.

The Vomiting of Pregnancy.

In the *Transactions* of the Vermont State Medical Society, Dr. George Davenport insists, in a timely and forcible manner, on the propriety of inducing premature delivery when the vomiting of pregnancy resists milder measures. He says: "After using faithfully and intelligently the appropriate remedies, and the patient is still failing, the symptoms no better, then, after consultation, if you choose to, resort to the induction of premature labor, with great hopes of success. There is still one more consideration to be taken into account, and it is this: not to fail of emptying the uterus by artificial means under these circumstances, no matter what the opposition may be. The duty of the practitioner is plain—to save the life of the mother, regardless of the embryotic or foetal life, and to those who oppose it effectually, to them and with them the responsibility must remain."

This is sound doctrine, and is too often overlooked, through timidity.

The Fluids of The Body.

Professor Jäger, of Leipsic, has recently published a work in which he maintains that an increased proportion of water in the tissues and humors of the body is one of the most essential conditions of liability to disease. To guard against disease, therefore, it is necessary to make the body yield as much water as possible through skin and lungs, and to avoid all that favors the accumulation of water. To this end he recommends the wearing of close-fitting woolen clothing throughout the year; all bodily movements which promote perspiration; on outbreak of disease the use of vapor or sweating baths, of drinks that excite perspiration, and of foods that do the same; constant ventilation of sitting and bed rooms, so that the moisture of the air may not become great. Dr. Jäger asserts that the specific gravity of a living body is an accurate criterion for the strength of constitution of a man or a domestic animal—that is to say, for its capability of resistance to causes of disease, such as chills, infection, etc., and its power of work, bodily and mental.

Treatment for Deficient Secretion of Milk.

A correspondent writes to the *British Medical Journal*—

My custom, after a confinement where there is a deficiency of milk, is to allow the patient an egg three times a day, beaten up in equal quantities of new milk and barley water to make a pint, and let her have a pint of lentil soup on going to bed at night, or if this is not to be had, a pint of gruel made very thick, and afterward thinned down with milk. I give imperative instructions for the infant to be suckled at regular hours only, and the breasts to be emptied at each application of the child to them.

This treatment, with twenty drops of dilute phosphoric acid, two grains of quinine, and ten drops of spirits of chloroform in two ounces of water, twice a day, has been very effectual in my hands.

Palmetto Berries and their Uses.

The medical properties of the berries of the saw palmetto are spoken of by Dr. J. B. Read, of Savannah, in the *American Journal of Pharmacy*. He says the berry, in all cases where a highly nutritive agent is needed, seems to apply well and to fulfill the indications. By its peculiar soothing power on the mucous membrane, it induces sleep, relieves the most troublesome coughs, promotes expectoration, improves digestion, and increases fat, flesh and strength. Its sedative and diuretic properties are remarkable. It has been used with benefit in cardiac asthma, phthisis (especially laryngeal phthisis), chronic bronchitis and dilation of the bronchial tubes. Its action in catarrhal affections is rapid and permanent. A cold in the head may be abated by two or three doses. Mixed in boiling water, and used by inhalation, it has been found very beneficial in chronic ozena.

Cure of the Opium Habit.

Dr. Osgood, of the Missionary Hospital at Foochow, has treated successfully several hundred cases of the opium habit by the following plan: 1. The total and absolute discontinuance of the opium from the beginning of treatment. 2. A trusty attendant to be with the patient day and night for the first three days. 3. Chloral hydrate for the first three nights, if required. 4. Good food, milk, raw eggs, brandy (in some cases), and chicken broth. (The above is taken in small quantities and frequently.) 5. In diarrhoea, give two-drachm doses of a mixture of equal parts of tincture of catechu and tincture of ginger.

CORRESPONDENCE.

Irritable Ulcer of the Rectum Treated and Cured by Forcible Dilatation.

ED. MED. AND SURG. REPORTER:—

Several months ago a middle-aged gentleman, of the nervo-sanguine temperament, called upon me for medical treatment for, as he termed it, chronic diarrhoea.

The subject before me, as he then appeared, can best be described to the medical man who has treated "irritable ulcer of the rectum." The patient was very much emaciated in flesh, mind considerably depressed, and a general bad habit of body, presenting much the appearance of cancerous cachexia.

I found, from the history of the case, that he had suffered eight years from this formidable disease, almost constantly (he had been under treatment five years ago, which proved only temporary in his case; the measures used were medicinal, no surgical procedure instituted). I further learned that his evacuations never attained to the round cast of the bowel, but a thin, watery discharge, generally of a clay color; this, with a frequent desire to defecation, was, as he said, almost intolerable; there was no very lancinating pain, but a growing and uneasy sensation always attending this act.

I concluded it was a case of *entero-colitis*, and after preparing the system with a light mercurial purgation, combined with quinia sulphate, I then made a prescription—

R. Zinci. oxid.,
Sodæ bicarb., ʒʒ grs. x
Fiant chart. No. i.

SIG.—One, and repeat three times a day, after meals.

I expected to derive much benefit from this prescription, as I had formerly treated several cases of children with similar affections very satisfactorily. I will here add, notwithstanding the failure to control the flux entirely, it proved a good and useful prescription, and by pushing the remedy, could almost secure consistent evacuations, but owing to a vermicular motion produced thereby, attended with much pain, I was forced, therefore, to discontinue it.

I then concluded to try the *sol. ferri pernit.*, eight-drop doses, three times daily.

This, continued for several weeks, seemed to do good at first, but was slow in action, and I abandoned it. At this time, Drs. F. and H. saw the case with me. After making an exploration of the rectum, the treatment adopted, *systemic*, was—

R. Hyd. chlor. mit., grs. xxv
Pulv. Doveri, grs. xx
Fiant chart. No. x.

SIG.—One, and repeat every two hours.

And now alternating with mineral acids—

R. Acid. mur. dil.

SIG.—Twelve drops, four times a day.

Locally, the injections with Mattison's syringe consisted of sol. lead and ergot—

R. Fl. ext. ergot, ʒij
Plumbi acet., grs. xxx
Aque font., ʒij.

SIG.—To be thrown into the rectum thrice daily.

This treatment for a while did apparent good, although I attribute the improvement to the mercury and acids, and not the injections.

Now, it occurred to us that the disease had not been reached, therefore, aided by a stomach pump tube I introduced and passed above the curvature of the descending colon a solution of nitrate of silver, twelve grains to a pint of water. This operation was repeated from time to time with increased strength of the silver, but only with slight mitigation in the symptoms of the case. Lastly and finally, we concluded to try forcible dilatation. The patient was at once chloroformed by my assistants and laid across the bed. I proceeded to operate "by fixing and introducing both thumbs well beyond the external sphincter, back to back, then taking a purchase from the buttocks with the outspread fingers, carried the thumbs forcibly apart until their palmar surfaces were arrested by the ischial tuberosities." After this the treatment consisted mainly of tonics, and the patient began to improve immediately. This operation seemed to have almost a magical effect. Just think for a moment, a patient that has been bed-ridden for months, prostrated by frequent discharges, almost restored in a few weeks and now is a well, hearty and stout man.

I report this case for two reasons: first, to show that a disease so intractable will yield readily to a practical manipulation; secondly, that one simple in pathology, although of not frequent occurrence, is so liable to be overlooked by the general practitioner. In conclusion, let me recommend to your readers a little work on the diseases of the rectum, by Dr. W. H. Van Buren: it is small, yet replete with good and useful information. E. W. RUSH, M.D.

Paris, Texas.

A Case of Hereditary Malarial Poisoning.

ED. MED. AND SURG. REPORTER:—

I was summoned to see Mrs. L. during the fall of 1878. She was suffering from an attack of intermittent fever of tertian type, and had had several paroxysms previous to the one at date of visit. She had another paroxysm the second day after date of first visit, during which she gave birth to a female child, at eight and a half months. The child did not do well, and soon presented unquestionable symptoms of a malarial cachexia, which yielded promptly to a treatment by antiperiodics. The child is at present in good health.

That malarial diseases are constitutional, there is, of course, no doubt; why malarial disease should or could not be hereditary, especially from the mother when suffering from the disease during pregnancy, particularly so near full term of gestation is not clear; that malarial poison is

communicated from father to offspring is less probable. Still, this may be possible; the semen may be contaminated; but, if the mother's system is free from any malarial taint, it is highly improbable that the child would suffer from such disease; on the contrary, however, if the mother's system should not be free from the poison throughout her term of gestation, it is fair to presume that the little flame contracted from the father would feed on the fuel furnished by the mother. It is more than probable, that in the event of the mother's system being free from malaria, though the semen of the father be contaminated, that the pure blood of the mother would so affect or neutralize the poisoned semen during gestation, that no trace of malarial cachexia would be visible in the child at birth.

H. L. GETZ, M.D.

Marshalltown, Iowa.

Inverted Toe Nail.

ED. MED. AND SURG. REPORTER:—

One of the most troublesome affections with which the practitioner has to deal is inversion of the nail of the great toe. Most surgeons regard all treatment save excision as of no avail, and to this the patient will not usually submit until other means have been ineffectually tried. Thus it becomes a matter of annoyance to attendant and patient alike.

The treatment which I here give in detail is one which, in my hands, has been attended with unvarying success. It is by no means radically new, save in one or two points originally suggested to me by Dr. Chandler, of the northern part of this city.

The first thing to be done is, with a piece of glass, to scrape the top of the nail, along its middle, as thin as can possibly be borne. Then, with a sharp knife, cut from the middle of the free edge a v-shaped piece, carrying the apex of the v back as far as possible. The inverted corner is not to be disturbed, but is to be allowed to grow out squarely. For I have long regarded the cutting away of the corner of the nail as the most frequent exciting cause of the very difficulty in question. I say exciting cause, for I firmly believe, as Prof. Gross intimates, that the main predisposing cause is heredity. I personally know a family in which a mother and three children have been thus afflicted. And in another family, closely related to the former, the mother and two children have been victims to the same annoyance. In these cases the children suffered in this way very early in life, thus lending considerable weight to the influence of heredity.

To return to the line of treatment, however, under the corner of the nail, which was to be allowed to grow out squarely, there must be placed a pledget of lint, of as large size as possible. This piece of lint must be thoroughly saturated with a mixture consisting of three grains of carbolic acid to one ounce of glycerine. Pains must be taken to have the lint wedged as tightly under the nail as possible. The lint must be renewed at least once daily. By these means I have been able to cure every case which has come under

my charge. Some of these cases had, for years, I was told, presented an ulcerating surface, covered with unhealthy granulation, and emitting an intensely fetid discharge.

J. W. HICKMAN, M.D.

1945 N. 11th St., Phila., May 26, 1879.

NEWS AND MISCELLANY.

The Plague.

Professor Hirsch has reported to the German Sanitary Office that his investigations on the spot leave no doubt that the epidemic at Wetlyanka was really one of true plague. He also states that besides being the actual focus of the disease, Wetlyanka is the only place where it acquired an epidemic character. Isolated cases in surrounding districts were always traceable to infection from Wetlyanka. An accurate scientific account of the epidemic is impossible, as all the physicians who were on duty during it are dead, without leaving behind them any notes of their observations. It appears, however, that the mortality was about 80 per cent. at Wetlyanka itself, and equal to 100 per cent. in the outlying districts. There is a suspicion that the origin of the disease had some connection with the war in Asia. The English medical men who were sent to Russia to inquire into the recent outbreak of plague have been able to associate its appearance in Europe in so many instances with the passage or cantonnement of soldiers brought over from Asia, as to leave but little doubt as to the method by which infection has been spread. A specific form of plague known to foreign physicians has existed from time immemorial among certain tribes of Central Asia, and although not always so fatal in its effects among the natives of the regions where it is endemic, it is most deadly when it attacks immigrants from other countries.

The Cholera.

Cholera has been making fearful havoc among the pilgrims returning from the Hurdwar fair, and is being spread by them through northern India. It is asserted that between 20,000 and 30,000 hillmen from the Himalayan districts near Nynsee Tal died on their homeward journey. Several cases, most of them fatal, appeared among the 15th Hussars almost immediately after their arrival at Meerut from Candahar, and it is supposed that the outbreak is due to some men having traveled from Mooltan in railway carriages which had been used by infected pilgrims. The disease has appeared in most cities of the Punjab, and the fear of the spread of the epidemic to Peshawur has induced the authorities to remove the greater portion of the garrison there.

—Dr. Schliemann and Professor Virchow have been having what school girls call "a perfectly lovely time" together. They have been digging away at Troy, and have come across great masses of charred buildings, and also a splendid treasure of ancient jewelry.

State Medical Society of Pennsylvania.

Dr. Charles S. Turnbull, of Philadelphia, exhibited a case of living *Filaria* in the eye of a horse, on the afternoon of Wednesday, which was overlooked in our report of the proceedings.

American Neurological Association.

The American Neurological Association will hold its fifth annual meeting in New York city on Wednesday, June 18th, and will continue three days.

Personal.

—A dispatch from Paris announces the death of Dr. Pierre Adolphe Piory. He was born at Poitiers, December 31, 1794. While pursuing his medical studies he was conscripted, but was relieved from serving in the ranks, and was made a surgeon, and attached to the army in Spain. He returned to Paris on the fall of the first Empire, received his degree in the year 1816, and was attached to the school of Broussais.

Items.

—A "hygienic institute" on a grand scale was opened in Munich on the 10th of April.

—Ten young ladies graduated May 22d at the Women's Medical College of New York.

—Prof. H. Cohen has proved by a number of experiments that letters, lines and all colors can be recognized at a greater distance by the aid of electric light than by either gaslight or sunlight. Hence this light is most suitable for signals, etc. Yellow is distinguished sixty times better, red six times, green and blue twice as well as in daylight.

OBITUARY NOTICES.**Dr. Francis Fontaine Maury**

Died at his late residence in this city, June 4th, of pulmonary disease, in the thirty-ninth year of his age.

The deceased was born in Danville, Ky., August 4th, 1840, and was educated at Centre College, in that city. His first course of lectures was attended at the medical department of the University of Virginia, and afterward he attended a course at the Jefferson Medical College of Philadelphia, where he graduated in 1862. He was considered one of the most skillful surgeons in Philadelphia. Among the remarkable operations performed by him was a successful amputation at the hip-joint; he performed the first operation for gastronomy in this country. He edited the *Photographic Bureau of Medicine and Surgery* for two years, and published a number of reports of medical and surgical cases. He was surgeon to the Jefferson Medical College Hospital, surgeon to the Philadelphia Hospital, and during the war was Surgeon-in-Chief of the United States Army Hospital, at Twenty-fourth and South Streets, in this city. He was a lecturer at the Jefferson College, and was a member of the College of Physicians and Pathological Society of Philadelphia.

QUERIES AND REPLIES.

E. S. of Florida, writes:—Having read Dr. Herriek's two articles on the Treatment of Stricture and Gleet with Galvanism, I would like to enquire of him if he has ever adapted his new method to the treatment of prostaticorrhea or spermatorrhea, and with what results.

Carduus.—There are two Hay Fever Associations, one the "United States," the other the "Northwestern."

R. W., of Va.—The common name "hives" is applied generally to urticaria; also at times to herpes.

Morus.—The so-called "thériaque," is a composite preparation still official in the French Codex. Jeannel, in the last edition of his "*Formulaire International*," classes it among the "vegetable reconstituents," and gives a formula for it containing fifty-seven ingredients, among which are castor, opium, earth and dried vipers.

Senec.—"Kidney-wort" is the vulgar name for *Umbilicus pendulina*, *sen Cotyledon umbilicus*. It is alleged to be diuretic and tonic, but has no certain value. The secret medicine sold under that name we know nothing about, and presume that like most such it is worthless.

MARRIAGES.

FRISBY-NICHOLS.—On the 27th ult., by the Rev. H. S. Phillips, rector of P. E. Church of the Crucifixion, Dr. S. Clarke Frisby, of Philadelphia, and Miss Mary E. Nichols, of Baltimore, Md. No cards.

HENGST-REED.—On Wednesday, May 14th, at the Second U. P. Church, Allegheny, Pa., by Rev. W. H. McMillen, Dr. D. A. Hengst, of Pittsburg, and Miss Carrie E., daughter of Dr. J. A. Reed, of Dismont, Pa.

HIXSON-THOMPSON.—In New York, at the Church of the Holy Trinity, by the Rev. Dr. Tyng, Sr., C. C. Hixson, M.D., of Hillsboro, and Miss M. L. Thompson, of Cincinnati.

KRUPP-STAINSBY.—In Philadelphia, on the 15th ult., by Rev. H. S. Hoffman, Franklin Krupp, M.D., and Miss Ada Stainsby.

MATHIAS-CHRISTENSEN.—On Thursday, May 15th, 1879, at Brooklyn, N.Y., by the Rev. S. B. Halliday, at the residence of the bride's parents, Dr. Andrew M. Mathias, of Hilltown, Penn., and Ophelia, eldest daughter of Gen. C. T. Christensen. No cards.

NEELY-THOMPSON.—In Philadelphia, May 8th, by Rev. J. C. Thompson, John M. Neely and Alice A. Thompson, daughter of N. G. Thompson, M.D., all of Brandywine Manor, Pa.

PIERSOL-STEEL.—In Philadelphia, on the 1st ult., at the residence of the bride's parents, by the Rev. E. A. Hoffman, D.D., George A. Piersol, M.D., and Miss Annie W. Steel.

THOMPSON-PEACOCK.—On May 21st, 1879, by Rev. T. B. Neely, Dr. W. M. Thompson and Miss Laura Peacock, both of Philadelphia.

WAMPOLE-SCOTT.—On Wednesday evening, May 21st, 1879, "At their Home," in North Wales, Penna., by the Rev. Francis A. Gilbert, of the M. E. Church, Dr. William H. Wampole and Miss Lydia N. Scott, of Salem, N. J.

WARDLE-WALLINGFORD.—On the 7th ult., at the residence of the bride's parents, by the Rev. Mr. Alderson, Dr. Charles Wardle, of Cincinnati, and Miss Belle Wallingford, of Maysville, Ky.

DEATHS.

MEARS.—In Brooklyn, on May 23th, after a brief illness, Mary L. Mears, wife of Dr. John Mears, and eldest daughter of Horace F. and Ann M. Burroughs, in the 24th year of her age.

SKELTON.—In Philadelphia, on the 20th ult., Charles Skelton, M.D., aged 75 years.